Patent claims

1. Method for data transmission, in particular on the basis of the Bluetooth standard, in which data packets can be interchanged by radio by means of a timeslot method, in which:

- communication channels (K1, K2) are set up between a master subscriber (M) and at least one slave subscriber (S1, S2),
- at least two communication channels (K1, K2) are operated with reduced activity in a first operating mode, such that the data interchange takes place periodically during first time slots which are then followed by second time slots during which no data interchange is intended,
- a first communication channel (K2), which can be operated in the first operating mode, is synchronized to at least one second communication channel (K1) which can be operated in the first operating mode.

2. Method according to Claim 1, characterized in that at least one communication channel (K1, K2) which is operated in the first operating mode has an SCO data link, with a time interval of T_{SCO} = 4 timeslots or T_{SCO} = 6 timeslots.

3. Method according to one of the preceding claims, characterized in that at least one communication channel (K1, K2) which is operated in the first operating mode has an ACL data link (K1, K2) which is operated in the sniff mode and/or in the park mode.

4. Method according to one of the preceding claims, characterized in that a synchronization parameter δ is predetermined for synchronization of the at least two communication

channels (K1, K2), and describes the phase offset in time for the data interchange between the master subscriber (M) and the slave subscribers (S1, S2) via the at least two communication channels (K1, K2).

5. Method according to one of the preceding claims, characterized
in that the first timeslots in the first and at least one second communication channel (K1, K2) at least partially overlap.

6. Method according to one of the preceding claims, characterized
in that the first timeslots in the first communication channel (K2) are immediately adjacent in time to the first timeslots in the second communication channel (K1).

7. Method according to one of the preceding claims, characterized
in that the periods of the communication channels (K1, K2) which are operated in the sniff mode and/or of the communication channels (K1, K2) which are operated in the park mode are the same or are at least a multiple of the period of an SCO communication channel which is operated in the first operating mode, in particular a multiple of T_{SCO} = 4 timeslots and/or T_{SCO} = 6 timeslots.

8. Method according to one of the preceding claims, characterized
in that the periods of the communication channels (K1, K2) which are operated in the sniff mode and/or of the communication channels (K1, K2) which are operated in the park mode are the same or are at least multiples of one another.

9. Method according to one of the preceding claims, characterized

in that the number of zero crossings which have occurred since the setting up of a communication channel are counted for synchronization purposes and, when setting up at least one second communication channel (K2) this is used to determine the phase angle with respect thereto.

10. Method according to one of the preceding claims, characterized in that slot-based or frame-based data interchange takes place between the master subscriber (M) and the slave subscribers (S1, S2).

11. Method according to one of the preceding claims, characterized in that the synchronization parameter is determined, and/or the data interchange is controlled and the communication channel is set up by a programmable unit, in particular a microprocessor or microcontroller.

12. A data transmission system which is based on the Bluetooth standard, in particular for carrying out a method according to one of Claims 1 to 11,

- having a master subscriber (M),
- having at least one slave subscriber (S1, S2), in which case data packets can be interchanged by radio by means of a timeslot method in order to transmit data between the master subscriber (M) and at least one slave subscriber (S1, S2),
- having a first communication channel (K1) for data interchange between the master subscriber (M) and a first slave subscriber (S1),
- having at least one second communication channel (K2) for data interchange between the master subscriber (M) and at least one second slave subscriber (S2),
- having means for synchronization of the first communication channel (K1) to at least the second communication channel (K2).

13. Data transmission system according to Claim 12, characterized
in that a master subscriber (M), which acts as the master, and a maximum of seven slave subscribers (S1, S2) which act as slaves are simultaneously actively involved in the data interchange.

14. Data transmission system according to one of Claims 12 or 13,
characterized
in that the master subscriber (M) and/or at least one slave subscriber (S1, S2) can be operated in an operating mode in which data is interchanged between the master subscriber (M) and the slave subscribers (S1, S2) periodically in first timeslots and in second timeslots which are adjacent to them, in which no data interchange is intended between the master subscriber (M) and the slave subscribers (S1, S2).

15. Data transmission system according to one of Claims 12 to 14,
characterized
in that the data transmission system is operated in a cordless communication system, in particular in a digitally operated cordless communications system, and/or in a programmable computer system or its peripherals.

16. Data transmission system according to one of Claims 12 to 15,
characterized
in that a control device is provided which controls the setting up of the communication channels (K1, K2) as well as the timing of the data interchange between the master subscriber (M) and the slave subscribers (S1, S2), and in which the parameters which define the operating mode of the data interchange are stored.

17. Data transmission system according to one of Claims 12 to 16,
characterized
in that the means for synchronization are implemented in a link manager, which is arranged in the master subscriber or in at least one of the active slave subscribers.

18. Data transmission system according to one of Claims 12 to 18,
characterized
in that the means for synchronization and/or the control device are/is in the form of a programmable unit, in particular a microprocessor or microcontroller.

19. Data transmission system according to one of Claims 12 to 18,
characterized
in that the means for synchronization have a counter, which counts the number of zero crossings which have occurred since a communication channel (K1, K2) was set up, and uses this to determine the relative phase angle of the two telecommunication channels (K1, K2) with respect to one another when setting up at least one second communication channel (K1, K2).